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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ROE, JESSEE RANDALL

ART UNIT

PAPER NUMBER

1733

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@howsonandhowson.com

Office Action Summary	Application No. 10/596,671	Applicant(s) SHINDO, YUICHIRO	
	Examiner JESSEE ROE	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1, 7, 15 and 17-19 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1, 7 and 18 is/are rejected.
- 8) ☒ Claim(s) 15 and 17-19 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of the Claims

Claims 1, 7, 15 and 17-19 are pending wherein claims 1, 7, 15 and 17 are amended, claims 18-19 are new and claims 2-6, 8-14 and 16 are canceled.

Status of Previous Rejections

The previous rejection of claims 15 and 17 under 35 U.S.C. 112, fourth paragraph, as failing to properly specify a further limitation of the subject matter of a claim from which it depends is withdrawn in view of the Applicant's amendment to claims 15 and 17. The previous rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Vilensky (US 2,269,497) is withdrawn in view of the Applicant's amendment to claim 1.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi et al. (US 6,531,396) in view of Segal (US 6,238,494).

In regards to claims 1 and 7, Chi et al. ('396) discloses depositing a nickel/platinum layer on a semiconductor substrate from a sputtering target wherein the nickel/platinum layer (and therefore the sputtering target) has a nickel content between 90 and 99% and a platinum content between 1 and 10% (col. 2). Thus, it would have

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been obvious to one of ordinary skill in the art to select a sputtering target having nickel within the range of 90 to 99% and platinum within the range of 1 to 10%, which is *prima facie* evidence of obviousness. MPEP 2144.05 I.

With respect to the recitation "having a purity of 99.99% or higher" in line 2 of claims 1 and 7, Chi et al. ('396) discloses either using a nickel-platinum alloy target and co-sputtering a pure nickel target and a pure platinum target (cols. 1 and 2). Chi et al. ('396), therefore desires only depositing pure materials on the semiconductors. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to only use pure metals to form nickel-platinum sputtering targets that would be used for sputtering on the semiconductors of Chi et al. ('396). MPEP 2144.06 I.

With respect to the recitation "having a Vickers hardness of 40 to 90" in line 4 of claims 1 and 7, since Chi et al. ('396) teaches using pure nickel and pure platinum in the sputtering target, this hardness would be expected. MPEP 2112.01 I. Alternatively, Chi et al. ('396) does not specify the hardness of the alloy sputter target.

Segal ('494) teaches a process that includes melting, casting and rolling metals such as nickel and platinum and alloys thereof in order to provide fine, uniform sputtering target structures that have strong, uniform textures that improve the performance of the sputtering target (cols. 1 and 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the nickel-platinum sputtering target, as disclosed by Chi et al. ('396), by performing a processing schedule that includes

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melting, casting and rolling, as disclosed by Segal ('494), in order to provide a sputtering target having a fine, uniform sputtering target structures that has strong, uniform textures that improve the performance of the sputtering target, as disclosed by Segal (cols. 1 and 2).

Since Chi et al. ('396) in view of Segal ('494) discloses the same composition and the same processing, a Vickers hardness of 40 to 90 would be expected.

With respect to the recitation "and a melted and cast ingot structure rollable without formation of cracks and fractures" in lines 4-5 claim 1 and "and a melted, cast and rolled target structure without cracks and fractures" in lines 4-5 of claim 7, Chi et al. ('396) discloses depositing a nickel/platinum layer on a semiconductor substrate from a sputtering target wherein the nickel/platinum layer (and therefore the sputtering target) has a nickel content between 90 and 99% and a platinum content between 1 and 10% (col. 2) as set forth above, but Chi et al. ('396) does not specify that the Ni-Pt alloy (target) would have a melted, cast and rolled target structure without cracks and fractures.

Segal ('494) teaches a process that includes melting, casting and rolling metals such as nickel and platinum and alloys thereof from billets (small ingots) in order to provide fine, uniform sputtering target structures that have strong, uniform textures that improve the performance of the sputtering target (cols. 1 and 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the nickel-platinum sputtering target, as disclosed by Chi et al. ('396), by performing a processing schedule that includes

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melting, casting and rolling, as disclosed by Segal ('494), in order to provide a sputtering target having a fine, uniform sputtering target structures that has strong, uniform textures that improve the performance of the sputtering target, as disclosed by Segal (cols. 1 and 2).

Since Chi et al. ('396) in view of Segal ('494) discloses the same composition and the same processing, a structure that is without the formation of cracks and fractures would be expected.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vilensky (US 2,269,497).

In regards to claim 18, Vilensky ('497) discloses a nickel-platinum alloy having 0.5 to 25 weight percent platinum and 75 to 99.5 weight percent nickel (page 1, left column, lines 55-61). The Examiner notes that the amount of platinum in the nickel alloy of Vilensky ('497) overlaps the amount of platinum in the instant invention, which is *prima facie* evidence of obviousness. MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the claimed amount of platinum from the amount disclosed by Vilensky ('497) because Vilensky ('497) discloses the same utility throughout the disclosed ranges.

With respect to the recitation "having a Vickers hardness of 40 to 90" in lines 3-4 of claim 18, the Examiner notes that because Vilensky ('497) discloses a substantially similar composition, this property would be expected. MPEP 2112.01 I.

With respect to the recitation "having a purity of 99.99% or higher thereby limiting a content of said unavoidable impurities to 0.01% or less" in lines 2-3 of claim 18,

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Vilensky ('497) discloses that the alloy that the alloy may be readily worked (pg. 1, left column, lines 37-39 and pg. 2, left column, lines 9-20) and although Vilensky ('497) does not specify the purity of the platinum or the nickel, merely purifying a prior art product would not be sufficient to patentably distinguish from that prior art product. MPEP 2144.04 (VII).

Allowable Subject Matter

Claims 15 and 17 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

In regards to claim 15, the prior art does not disclose or adequately suggest a nickel-platinum alloy superior in workability consisting of 20 weight percent platinum with the alloy having a purity having a purity of 99.99% with a Vickers hardness of 40 to 90 wherein the nickel-platinum alloy is a melted and cast ingot structure rollable without cracks and fractures.

In regards to claim 17, the prior art does not disclose or adequately suggest a nickel-platinum alloy sputter target superior in workability consisting of 20 weight percent platinum with the alloy having a purity having a purity of 99.99% with a Vickers hardness of 40 to 90 wherein the nickel-platinum alloy is a melted, cast and rolled target structure without cracks and fractures.

Double Patenting

Claims 18-19 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1 and 17. When claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The incorporation of claim 19 into claim 18 and claim 17 into claim 1 would render the resulting claims substantial duplicates of one another.

Response to Arguments

Applicant's arguments filed 22 December 2011 have been fully considered but they are not persuasive.

First, the Applicant primarily argues that one of ordinary skill in the metallurgical arts use the term "pure" to mean that it primarily consists of one intended metal element although it certainly will contain other elements as impurities and one of ordinary skill in the art understands that so-called pure Fe, or so-called pure Al, or so-called pure Cu, etc. will always contain impurities even if the desired metal is not intentionally mixed with other substances. Thus, the term "pure" to one of ordinary skill in the art does not mean that the purity of the metal is 100% (which is impossible with respect to the subject metals); rather, it simply means that the impurities are undesired and not intentionally added to the metal.

In response, the Examiner notes that while "the purity" of a substance implies the presence of more than one material, "pure" indicates only one material would be present and no impurities since the material would not be mixed with any other substance. A "pure" material would not have a purity of 90 weight percent. The Examiner has provided the definition of "pure" as is in the American Heritage® Stedman's Medical Dictionary in the Office Action of 23 August 2011. Combining the pure nickel sputtering target and the pure platinum sputtering target would be obvious to one having ordinary skill in the art. It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art. MPEP 2144.06 I.

Second, the Applicant primarily argues that the disclosure of Chi et al. ('396), when properly interpreted, fails to disclose the purity of a Ni-Pt alloy target and/or provide an significance thereto. The Applicant further argues that Chi et al. ('396) also fails to describe a manufacturing process and resulting structure which will also determine the characteristics (i.e., hardness, workability, etc.) of the alloy and target in addition to the composition and purity since the purity and structure produced due to the manufacturing process of the Ni-Pt alloy are not disclosed by Chi et al. ('396) and/or even considered as important and Chi et al. ('396) fails to make obvious to one of ordinary skill in the art, at the time the present invention was made, a Ni-Pt alloy target having a purity of 99.99% and a Vickers hardness of 40 to 90.

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In response, the Examiner notes that Chi et al. ('396) discloses either using a nickel-platinum alloy target and co-sputtering a pure nickel target and a pure platinum target (cols. 1 and 2). Chi et al. ('396), therefore desires only depositing pure materials on the semiconductors. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to only use pure metals to form nickel-platinum sputtering targets that would be used for sputtering on the semiconductors of Chi et al. ('396). MPEP 2144.06 I. Additionally, Segal ('494) teaches a process that includes melting, casting and rolling metals such as nickel and platinum and alloys thereof in order to provide fine, uniform sputtering target structures that have strong, uniform textures that improve the performance of the sputtering target (cols. 1 and 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the nickel-platinum sputtering target, as disclosed by Chi et al. ('396), by performing a processing schedule that includes melting, casting and rolling, as disclosed by Segal ('494), in order to provide a sputtering target having a fine, uniform sputtering target structures that has strong, uniform textures that improve the performance of the sputtering target, as disclosed by Segal (cols. 1 and 2).

Third, the Applicant primarily argues that the manufacturing process disclosed by Segal ('494) cannot be applied (and it would not have been obvious to one of ordinary skill in the art to apply) to a Ni-Pt alloy because Segal ('494) at column 1, lines 61-64 teaches away from use of the process on metals that do not "display good ductility and workability". The Applicant further argues that conventional nickel-platinum alloys at the

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time of the present invention was made would not have been an alloy that displayed good ductility and workability and thus use of the process for a Ni-Pt alloy would have been avoided in accordance with Segal ('494).

In response, the Examiner notes that Segal ('494) discloses at column 1, 61-64:

The present invention can be applied to different metals and alloys that display good ductility and workability at temperatures below corresponding temperatures of static recrystallization. Among metals with which the invention can be applied are Al, Ti, Ta, Cu, Nb, Ni, Mo, Au, Ag, Re, Pt and other metals, as well as their alloys. One embodiment of the method comprises the steps of processing an ingot to

This portion of Segal ('494) does not indicate in any way that nickel, platinum, or alloys thereof would not display good ductility and workability. Rather, this portion of Segal ('494) indicates that nickel, platinum and alloys thereof would have good ductility and workability...the opposite of what Applicant is arguing. Thus, at the time of the invention, it would have been expected that nickel, platinum and alloys thereof would have displayed good ductility and workability. Therefore, Applicant's arguments are not persuasive.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571)272-5938. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jessee Roe/
Primary Examiner, Art Unit 1733